

REMARKS

The indication that claims 5, 6, 11, 12, 14 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, is acknowledged. Applicants note that by the present amendment, such claims have been retained in dependent form, since applicants submit that the amendment of the parent claims patentably distinguish over the cited art, as will be discussed below.

By the present amendment, the independent claims 1, 8 and 13 have been amended to clarify features of the present invention which are readily apparent from Figs. 2 and 3 of the drawings of this application, for example. More particularly, turning to claim 1, and as illustrated in Figs. 2(a) and 3(a), a multilayer electronic part has a surface electrode 12, an internal electrode (13 and 14) and a back electrode 15, wherein alternate ones of the electrodes 12 and 14 and 13 and 15 along the thickness of the multilayer are electrically connected to each other to constitute two electrode groups. In accordance with the invention as recited in claim 1, the two electrode groups are electrically connected along one side surface of the multilayer electronic part as clearly illustrated in Figs. 2(c) and 3(b), which one side surface is at least partially formed of respective one side edges of the surface electrode 12, internal electrodes 13 and 14 and the back electrode 15. That is, only at the side edge forming the one side surface of the multilayer electronic part is the connection effected by way of the flexible board 20 as described therein. Applicants note that as pointed out in the specification, the multilayer electronic part is represented by a chip-like element including the electrodes and piezoelectric members in the form of ceramics 11, and as described at page 10, lines 2-9 of the specification, the planar shape of all of the electrodes is formed equally to the planar shape of the ceramics 11 and on the four side surfaces of the chip-like element 1, the end surfaces or side

edge of the surface electrode 12, first internal electrode 13, the second internal electrode 14 and the back electrode 15 is exposed on a single surface or side edge at which the electrical connection is effected by way of a flexible board 20 or the like. With this construction, the electric connection is effected on the outside or peripheral side surface of the stacked elements forming a vibrator and since no connection is effected internally, the effective area of the vibrator is not decreased and the sensitivity of the vibrator is not decreased. As such, the area of the stacked vibrator can be used effectively. By the present amendment of independent claims 1, 8 and 13, the electrical connection at the one side edge of the electrodes forming part of the one side surface is clearly set forth and applicants submit that the independent claims and dependent claims, as amended, patentably distinguish over the cited art, as will become clear from the following discussion. Additionally, applicants note that new dependent claims 17-22 have been added which depend directly or indirectly from the independent claims 1, 8 and 13 and further define features of the present invention as discussed above. Thus, applicants submit that all claims patentably distinguish over the cited art, as will become clear from the following discussion.

The rejection of claims 1-2, 4, 7-9, 13 and 16 under 35 U.S.C. 102(b) as being anticipated by Greenstein and the rejection of claims 3 and 10 under 35 U.S.C. 103(a) as being unpatentable over Greenstein, such rejections are traversed insofar as they are applicable to the present claims, and reconsideration and withdrawal of the rejections are respectfully requested.

At the outset, as to the requirements to support a rejection under 35 U.S.C. 102, reference is made to the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. As noted by the court, if the prior art reference does not expressly set forth a particular element of the

claim, that reference still may anticipate if the element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

With regard to the requirements to support a rejection under 35 U.S.C. 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under §103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the recent decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge".

The court pointed out:

The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation

would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

In applying Greenstein to the claimed invention, the Examiner refers to Fig. 1 of this patent indicating that electrodes 18 and 20 are connected to ground and alternate signal electrodes 22 and 24 are electrically interconnected by via segments 26 and 28, while ground electrodes 18 and 20 are connected by a via along the side of element 10. With this construction, as illustrated in Fig. 2 of Greenstein, the electrical connection is effected internally of the rectangular outline of the stacked transducer element 10 by vias or through holes resulting in a decrease in the area as occupied by the through holes and connection effected thereby within the rectangular configuration of the stacked transducer. Since the area occupied by the through holes or via segments 26, 28 decreases the effected area of the transducer, the sensitivity of the transducer is decreased by the decreased area. On the other hand, in accordance with the present invention, the electrical connection is effected at an outer surface of the stacked transducer and no decrease in effective area of the transducer and therefore sensitivity results. As noted above, by the present amendment, while the independent claims recited the electrical connection being connected on one side surface of the multilayer electronic part, as set forth in claim 1, for example, the one side surface has now been defined as being partially formed of respective one side edges of the surface electrode, internal electrode and back electrode. Thus, as illustrated in Fig. 1 of Greenstein, the electrical connection effected by the via segment 28 is obtained by way of a bottom surface of the

electrode 22 and a side edge of the electrode 24 while the connection effected by the via segment 30 is effected between the bottom surface of the electrode 18 and a side edge of the electrodes 20 and 24, and therefore, Greenstein fails to disclose in the sense of 35 U.S.C. 102 or teach in the sense of 35 U.S.C. 103 that the one side surface is partially formed of respective one side edges of the surface electrode, internal electrode and back electrode, as now recited in independent claims 1, 8 and 13 with the attendant advantages as recited. That is, Greenstein discloses in the abstract thereof, for example, that the multilayer two-dimensional array of ultrasonic transducer elements includes four via segments at the four corners of each transducer element, and applicants submit that it cannot be considered obvious in light of this disclosure and teaching to effect the connection at a peripheral or outside surface of the ultrasonic transducer element with the attendant advantages as described above. Accordingly, applicants submit that each of the independent and dependent claims patentably distinguish over Greenstein in the sense of 35 U.S.C. 102 and 35 U.S.C. 103, and should be considered allowable thereover.

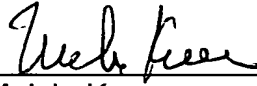
With respect to the dependent claims, applicants note that some of the dependent claims have been amended to further define features of the present invention, and new dependent claims 17-22 have been added, reciting further features as described above, which are not disclosed or taught in the cited art, it being recognized that the Examiner has indicated the allowability of other dependent claims of this application.

In view of the above amendments and remarks, applicants submit that all claims present in this application should now be in condition for allowance, and issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing

of this paper, including extension of time fees, to Deposit Account No. 01-2135 (500.40053X00) and please credit any excess fees to such deposit account.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Melvin Kraus", written over a horizontal line.

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